

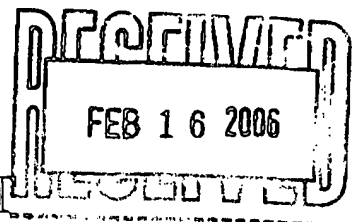
PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To:
H.T. THAN
THE H.T. THAN LAW GROUP
1010 WISCONSIN AVENUE, NW
SUITE 560
WASHINGTON, DC 20007

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL SEARCH REPORT AND
THE WRITTEN OPINION OF THE INTERNATIONAL
SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)



Applicant's or agent's file reference LUNA-012.PCT	Date of mailing (day/month/year) FOR FURTHER ACTION See paragraphs 1 and 4 below
International application No. PCT/US04/28625	International filing date (day/month/year) 02 September 2004 (02.09.2004)
Applicant LUNA ENERGY, LLC	

1. ☒ The applicant is hereby notified that the international search report, the written opinion of the International Searching Authority have been established and are transmitted herewith.
Filing of amendments and statement under Article 19:
 The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.
Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes
 1211 Geneva 20, Switzerland, Facsimile No.: (41-22) 92.70.
For more detailed instructions, see the notes on the accompanying sheet.
2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.
3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.
☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.
4. **Reminders**
 Shortly after the expiration of 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.
 The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. These comments would also be made available to the public but not before the expiration of 30 months from the priority date.
 Within 19 months from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later); otherwise, the applicant must, within 20 months from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.
 In respect of other designated Offices, the time limit of 30 months (or later) will apply even if no demand is filed within 19 months.
 See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the ISA/ US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Authorized officer <i>Lylea Deuel For</i> Edward Lefkowitz Telephone No. 571272
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Form PCT/ISA/220 (January 2004)

(See notes on accompanying sheet)

BEST AVAILABLE COPY

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference LUNA-012.PCT	FOR FURTHER ACTION <small>see Form PCT/ISA/220 as well as, where applicable, item 5 below.</small>	
International application No. PCT/US04/28625	International filing date (<i>day/month/year</i>) 02 September 2004 (02.09.2004)	(Earliest) Priority Date (<i>day/month/year</i>) 04 September 2003 (04.09.2003)
Applicant LUNA ENERGY, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the Report

a. With regard to the language, the international search was carried out on the basis of:



the international application in the language in which it was filed.



a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. ☐

With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☒ Certain claims were found unsearchable (See Box No. II)

3. ☐ Unity of invention is lacking (See Box No. III)

4. With regard to the title,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the abstract,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

a. the figure of the drawings to be published with the abstract is Figure No. _____



as suggested by the applicant.



as selected by this Authority, because the applicant failed to suggest a figure.



as selected by this Authority, because this figure better characterizes the invention.

b. ☒

none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/28625

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☒ Claims Nos.: 6
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
 2. ☐ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of any additional fees.
 3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
 4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
- Remark on Protest**
- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
 - ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
 - ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/28625

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G01L 1/24

US CL : 73/800

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 73/1.57, 800, 861.04, 705; 356/477, 478, 345, 351; 385/13

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EAST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,056,436 (SIRKIS et al) 2 May 2000 (2.5.2000), see whole document.	1 - 54
Y	US 6,016,702 (MARON) 25 June 2000 (25.6.2000), column 5, lines 59 - 67 and column 6, lines 1 - 49.	1-54



Further documents are listed in the continuation of Box C.



See patent family annex.

Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

20 January 2006 (20.01.2006)

Date of mailing of the international search report

15 FEB 2006

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (571) 273-3201

Authorized officer

Edward Lefkowitz

Telephone No. 571272

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
H.T. THAN
THE H.T. THAN LAW GROUP
1010 WISCONSIN AVENUE, NW
SUITE 560
WASHINGTON, DC 20007

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) **15 FEB 2006**

Applicant's or agent's file reference

LUNA-012.PCT

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/US04/28625

International filing date (day/month/year)

02 September 2004 (02.09.2004)

Priority date (day/month/year)

04 September 2003 (04.09.2003)

International Patent Classification (IPC) or both national classification and IPC

IPC(7): G01L 1/24 and US Cl.: 73/800

Applicant

LUNA ENERGY, LLC

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (571) 273-3201

Date of completion of this
opinion

20 January 2006 (20.01.2006)

Authorized officer

Edward Lefkowitz
Edward Lefkowitz

Telephone No. 571272

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US04/28625

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
- ☐ table(s) related to the sequence listing

b. format of material

- ☐ on paper
- ☐ in electronic form

c. time of filing/furnishing

- ☐ contained in the international application as filed.
- ☐ filed together with the international application in electronic form.
- ☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US04/28625

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application

☒ claims Nos. 6

because:

☐ the said international application, or the said claim Nos. _____ relate to the following subject matter which does not require an international search (*specify*):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 6 are so unclear that no meaningful opinion could be formed (*specify*):

Claim 6 depends on claims 3, 4 and 5 and must depend in the alternative form only.

☐ the claims, or said claims Nos. _____ are so inadequately supported by the description that no meaningful opinion could be formed (*specify*):

☐ no international search report has been established for said claims Nos. _____

☐ a meaningful opinion could not be formed without the sequence listing; the applicant did not, within the prescribed time limit:

☐ furnish a sequence listing on paper complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Searching Authority in a form and manner acceptable to it.

☐ furnish a sequence listing in electronic form complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Searching Authority in a form and manner acceptable to it.

☐ pay the required late furnishing fee for the furnishing of a sequence listing in response to an invitation under Rules 13ter.1(a) or (b).

☐ a meaningful opinion could not be formed without the tables related to the sequence listings; the applicant did not, within the prescribed time limit, furnish such tables in electronic form complying with the technical requirements provided for in Annex C-bis of the Administrative Instructions, and such tables were not available to the International Searching Authority in a form and manner acceptable to it.

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in electronic form only, do not comply with the technical requirements provided for in Annex C-bis of the Administrative Instructions.

☐ See Supplemental Box for further details.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US04/28625

Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>NONE</u>	YES
	Claims <u>1-54</u>	NO
Inventive step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-54</u>	NO
Industrial applicability (IA)	Claims <u>1-54</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and explanations:

Claims 1 - 54 lack novelty under PCT Article 33(2) as being anticipated by Sirkis et al.

Regarding claims 1, 20, 21, 29, 34 and 41, Sirkis et al disclose a high sensitivity fiber optic pressure sensor for use in harsh environments comprising an optical sensor including a pressure sensing region 52 and a temperature sensing region 54 with a temperature sensitive material, a sealed cavity 18 having first and second reflecting surfaces, the distance between the surfaces changing in response to a change in pressure, and a first and a second reflected light from an interferometric signal indicating a pressure at the location of the optical sensor (See Col. 3, lines 1 - 30).

Regarding claim 2, a launch waveguide 56 is operatively connected to the sealed cavity and projects light into the sealed chamber (See Col. 3, lines 44 - 50).

Regarding claim 3, the sealed cavity is defined by a hollow tube 16, the launch waveguide and a distal member 13, 15, the tube being sealed (See Col. 3, lines 5 - 8).

Regarding claims 4 and 5, the sealed cavity is defined by an end cap 13, 15 (See Col. 3, lines 1 - 8).

Regarding claims 7 - 9, 31 and 32, the distal member is a reflective waveguide, a disk and an end cap (See Col. 3, lines 44 - 54).

Regarding claims 10 - 12, one of the reflecting surfaces is coated with an optical coating different from the other surface (See Col. 4, lines 18 - 23).

Regarding claims 13 and 14, one of the reflecting surfaces is modified (See Col. 3, lines 25 - 30).

Regarding claims 15 - 19, the cavity 65, 75 includes a gas and a partial vacuum that is provided by a vacuum fixture process (See Col. 4, lines 22 - 51 and Col. 5, lines 1 - 13).

Regarding claims 22 - 24, the temperature sensing region includes a third and fourth reflecting surface R3, R4 that form an interferometric signal (See Col. 3, lines 54 - 61).

Regarding claim 25, the first and second reflecting surfaces are connected to the third and fourth reflecting surfaces by the reflecting waveguide 56 (See Col. 3, lines 44 - 67).

Regarding claims 26 - 28, the temperature sensing region is located within the sealed cavity and is spaced apart from the cavity and forms a cavity wall (See Col. 4, lines 1 - 18 and 25 - 34).

Regarding claim 30, the temperature sensing region is connected to the distal member 13 (See Fig. 2).

Regarding claims 33, 43, 44 and 46, the distal end 13, 15 is cleaved (See Col. 3, lines 5 - 8).

Regarding claims 35, 36, 38 and 39, the sealed cavity is uniform and defines a tube 16 fused to launch the waveguide to a capillary tube 46, 126 that are made from materials having similar coefficient of thermal expansion (See Col. 6, lines 1 - 10, See Fig. 7A).

Regarding claim 37, the length of the capillary tube extends inside of the cavity (See Fig. 7A).

Regarding claim 40, the temperature sensing region is disposed inside of the capillary tube (See Fig. 7A).

Regarding claim 42, the capillary tube includes a hollow portion.

Regarding claim 45, the launch waveguide 56 is spaced apart from the sealed cavity 18 and projects light into the cavity (See Fig. 1).

Regarding claim 47, the launch waveguide 56 is attached to the sensor 52, 54 (See Fig. 1).

Regarding claims 48 - 50, the sensor is made from wafers that are polished (See Col. 4, lines 21 - 24 and Col. 5, lines 1 - 13).

Regarding claims 51 - 53, the hollow tube 16 and the distal members 13, 15 are fused.

Regarding claim 54, the sensors 52, 54 measures the pressure and temperature at a predetermined downhole location in an oil or gas well (See Col. 1, lines 40 - 59).

Claims 1 - 54 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US04/28625

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

V. 2. Citations and Explanations:

Claims 1 - 54 lack novelty under PCT Article 33(2) as being anticipated by Sirkis et al.

Regarding claims 1, 20, 21, 29, 34 and 41, Sirkis et al disclose a high sensitivity fiber optic pressure sensor for use in harsh environments comprising an optical sensor including a pressure sensing region 52 and a temperature sensing region 54 with a temperature sensitive material, a sealed cavity 18 having first and second reflecting surfaces, the distance between the surfaces changing in response to a change in pressure, and a first and a second reflected light from an interferometric signal indicating a pressure at the location of the optical sensor (See Col. 3, lines 1 - 30).

Regarding claim 2, a launch waveguide 56 is operatively connected to the sealed cavity and projects light into the sealed chamber (See Col. 3, lines 44 - 50).

Regarding claim 3, the sealed cavity is defined by a hollow tube 16, the launch waveguide and a distal member 13, 15, the tube being sealed (See Col. 3, lines 5 - 8).

Regarding claims 4 and 5, the sealed cavity is defined by an end cap 13, 15 (See Col. 3, lines 1 - 8).

Regarding claims 7 - 9, 31 and 32, the distal member is a reflective waveguide, a disk and an end cap (See Col. 3, lines 44 - 54).

Regarding claims 10 - 12, one of the reflecting surfaces is coated with an optical coating different from the other surface (See Col.4, lines 18 - 23).

Regarding claims 13 and 14, one of the reflecting surfaces is modified (See Col. 3, lines 25 - 30).

Regarding claims 15 - 19, the cavity 65, 75 includes a gas and a partial vacuum that is

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US04/28625

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

provided by a vacuum fixture process (See Col. 4, lines 22 - 51 and Col. 5, lines 1 - 13).

Regarding claims 22 - 24, the temperature sensing region includes a third and fourth reflecting surface R3, R4 that form an interferometric signal (See Col. 3, lines 54 - 61).

Regarding claim 25, the first and second reflecting surfaces are connected to the third and fourth reflecting surfaces by the reflecting waveguide 56 (See Col. 3, lines 44 - 67).

Regarding claims 26 - 28, the temperature sensing region is located within the sealed cavity and is spaced apart from the cavity and forms a cavity wall (See Col. 4, lines 1 - 18 and 25 - 34).

Regarding claim 30, the temperature sensing region is connected to the distal member 13 (See Fig. 2).

Regarding claims 33, 43, 44 and 46, the distal end 13, 15 is cleaved (See Col. 3, lines 5 - 8).

Regarding claims 35, 36, 38 and 39, the sealed cavity is uniform and defines a tube 16 fused to launch the waveguide to a capillary tube 46, 126 that are made from materials having similar coefficient of thermal expansion (See Col. 6, lines 1 - 10, See Fig. 7A).

Regarding claim 37, the length of the capillary tube extends inside of the cavity (See Fig. 7A).

Regarding claim 40, the temperature sensing region is disposed inside of the capillary tube (See Fig. 7A).

Regarding claim 42, the capillary tube includes a hollow portion.

Regarding claim 45, the launch waveguide 56 is spaced apart from the sealed cavity 18 and projects light into the cavity (See Fig. 1).

Regarding claim 47, the launch waveguide 56 is attached to the sensor 52, 54 (See Fig. 1).

Regarding claims 48 - 50, the sensor is made from wafers that are polished (See Col. 4, lines 21 - 24 and Col. 5, lines 1 - 13).

Regarding claims 51 - 53, the hollow tube 16 and the distal members 13, 15 are fused.

Regarding claim 54, the sensors 52, 54 measures the pressure and temperature at a predetermined downhole location in an oil or gas well (See Col. 1, lines 40 - 59).

NOTES TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
2. [Where originally there were 15 claims and after amendment of all claims there are 11]:
"Claims 1 to 15 replaced by amended claims 1 to 11."
3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
4. [Where various kinds of amendments are made]:
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

"Statement under Article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

It must be in the language in which the international application is to be published.

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments and any accompanying statement, under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the time of filing the amendments (and any statement) with the International Bureau, also file with the International Preliminary Examining Authority a copy of such amendments (and of any statement) and, where required, a translation of such amendments for the procedure before that Authority (see Rules 55.3(a) and 62.2, first sentence). For further information, see the Notes to the demand form (PCT/IPEA/401).

Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see the *PCT Applicant's Guide*, Volume II.

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